

OFFICE OF COASTAL MANAGEMENT

COASTAL USE PERMITS

**GUIDE TO DEVELOPING
ALTERNATIVES, JUSTIFICATION
DRAINAGE AND COASTAL HAZARD
ANALYSES
FOR
PROPOSED USES WITHIN THE
LOUISIANA COASTAL ZONE**

Introduction

One of the goals of the Office of Coastal Management (OCM) is to achieve a balance between conservation of coastal resources and development of the coastal zone. Development in the coastal zone is encouraged but avoidance of unnecessary impacts to coastal resources is essential in order to protect those resources for future generations. To accomplish this goal, OCM reviews every Coastal Use Permit (CUP) application with the objective of avoiding and/or minimizing adverse impacts wherever possible. Pursuant to La. RS 49:214.27.B and C., OCM uses the Coastal Use Guidelines, found in LAC Title 43, Part I, Chapter 7, Subpart B, §701-719, to determine the type of information needed to fully evaluate a particular use and the adverse impacts that must be avoided to the maximum extent practicable. All coastal uses must be in conformance with all applicable Coastal Use Guidelines in order to receive approval from OCM.

Part of these guidelines, §701.H, charges OCM with ensuring that the public benefits of a proposed coastal use clearly outweigh any adverse impacts to public resources resulting from that use. **Public benefits** include providing goods and/or services to users that currently do not have reasonable access to such goods and/or services, increasing permanent employment opportunities and increasing public revenues. **Coastal resources** include coastal waters, wetlands, fisheries, wildlife and unique ecological/coastal features such as ridges, cheniers, salt domes, beaches and dunes. These resources provide value to the public in the form of storm and flood protection, nursery grounds for commercial and recreational fishing, critical habitat for endangered species and improved water quality. Public resources also include existing structures and infrastructure. **Adverse impacts** are direct or indirect loss and/or negative alteration of a public resource as well as negative impact on concurrent and neighboring coastal users and include such things as increased intensity or frequency of flooding, accelerated erosion and salt water intrusion.

Review of a proposed coastal use using the Coastal Use Guidelines includes asking questions such as:

1. Can adverse impacts from a proposed use on coastal resources and/or user groups be avoided by moving the use to an area which results in less adverse impact to coastal resources and/or users?
2. If the use cannot be moved, can demand for the proposed goods and/or services in the area to which they will be introduced be documented?
3. If a use cannot be moved and demand can be demonstrated, can the use be redesigned/reconfigured, or can different methods be used to accomplish the use, which results in less damage to coastal resources?

To answer these questions, OCM requires that the applicant provide Alternatives, Justification, Drainage and Coastal Hazard Analyses in sufficient detail to demonstrate a thorough consideration of the respective subjects. In an effort to recognize the differences between small and large projects, and/or low and high coastal resource impact projects, OCM has developed a tiered approach to Analysis development. Factors such as, but not limited to, the complexity of the development, surrounding land use, type and level of resource impact and coastal use objective(s) are used to determine the range of alternatives to be considered in the Alternatives Analysis and the information and level of detail required for the Justification, Drainage and Coastal Hazard Analyses. This guide was developed to assist applicants for

Coastal Use Permits with determining, in general, the type of information and level of detail needed to fully evaluate a proposed coastal use's potential impacts and benefits and therefore it's conformance with the Coastal Use Guidelines. Any combination of analyses may be required depending on the nature of the proposed coastal use and the potential adverse impacts that may occur from that use.

Alternatives and Justification Analyses

To fully evaluate a proposed coastal use's benefits and impacts, Alternatives and/or Justification Analyses are required during review of a use from which adverse impacts to coastal resources are, in OCM's opinion, likely to occur. The Alternatives Analysis should address several options for project siting that are compared equally for feasibility and will allow OCM to determine the least damaging feasible site for the proposed use. The Alternatives Analysis should provide documentation that clearly demonstrates that reasonable efforts were made to find less damaging sites and should provide an explanation for why each less damaging site was not feasible. The Alternatives Analysis also should address alternate site configuration, alternate methods of construction, and how adverse impacts to coastal resources will be minimized.

The Justification Analysis should include sufficient detail to clearly demonstrate demand for the proposed use and will allow OCM to determine the public need the proposed use. The Justification Analysis should explain the goods and/or services that the proposed coastal use will provide and include documentation that clearly demonstrates a public demand for, or public benefit resulting from, the proposed use. The analysis should provide enough information for OCM to determine that there is a reasonable chance that the project will be successful and not result in a situation where large scale destruction of resources is permitted for a project that fails economically, floods, causes flooding on adjacent areas or in some other way fails the public.

In general, the greater the resource or user group impacts, the more detail required for both the Alternatives and Justification Analyses. Using the information contained in these analyses, OCM can effectively evaluate the proposed coastal use's conformance with the applicable Coastal Use Guidelines (specifically §701.F.3, 5, 7, 8, 10, 13, 16 and 19; §701.G.2 and 6; §701.H; §701.I; and all applicable Use Specific Guidelines).

Drainage and Coastal Hazard Analyses

In 2007 the State adopted the *Integrated Ecosystem Restoration and Hurricane Protection: Louisiana's Comprehensive Master Plan for a Sustainable Coast* (the Master Plan). The Master Plan lays out four Coast-Wide Planning Objectives of the State and outlines coastal restoration and protection projects that can be implemented to restore and protect our coast. Objective #1 of the Master Plan is to "*Reduce Economic Losses from storm based flooding to residential, public, industrial and commercial infrastructure...*" On January 23, 2008, Governor Jindal signed executive order BJ 08-07 charging that "All state agencies shall administer their regulatory practices, programs, contracts, grants, and all other functions vested in them in a manner consistent with the Master Plan and public interest to the maximum extent possible". OCM is responsible for ensuring that development within the Coastal Zone of Louisiana is sited and constructed to minimize the risk of damage from flooding and other coastal hazards. A Drainage Analysis is used to evaluate the potential adverse impacts related to surface water

movement that may be associated with proposed coastal uses. A Coastal Hazard Analysis is used to identify the potential coastal hazards that may affect a proposed coastal use and addresses methods of reducing damages from those coastal hazards.

A Drainage Analysis will be required any time a proposed coastal use may alter surface water flow such that the coastal use has an adverse impact on existing drainage patterns. **Adverse impacts** include increased flooding to or drainage from adjacent properties and detrimental alternation of upstream and downstream flow rates. Types of uses that may affect drainage involve the placement of a significant amount of fill (i.e. fill resulting in a noticeable change in site elevation), changes in surface material such that water retention capabilities are reduced (i.e. going from pervious to non-pervious large surfaces) and coastal uses that reroute or relocate existing drainage features (levees, berms, jetties, dykes and drainage canals). A typical Drainage Analysis includes explanations and illustrative maps of existing drainage patterns and how those patterns are going to be altered by the proposed coastal use. Existing and altered flow rates in existing ditches, canals and channels also should be included if applicable. Using this information OCM can effectively evaluate a proposed coastal use's conformance with the applicable Coastal Use Guidelines (specifically §701.F.2, 4, 11, 15-19; §701.G.1, 3-12, 15, 16, 18 and 20; §701.H; §701.I; and all applicable Use Specific Guidelines).

Coastal Hazards such as hurricanes and related storm surge, flooding, subsidence, saltwater intrusion, sea level rise, etc. are a fact of life in coastal Louisiana. Any proposed coastal use sited in an area at risk from a particular coastal hazard requires a Coastal Hazard Analysis. This study should identify the potential risks and address minimization of adverse impacts resulting from the identified risks, whether to or by the proposed use. For example, a coastal hazard study for an application to build a house or subdivision in an area of high risk for hurricanes should identify the risks associated with hurricanes and address how the proposed structure(s) and project features will be designed and sited to avoid being damaged by those risks and becoming debris that can then damage other structures. Using this information OCM can effectively evaluate a proposed coastal use's conformance with Executive Order BJ 08-07 and the applicable Coastal Use Guidelines (specifically §701.2; 8, 11, 14, 15, 16, and 19; §701.G.2, 10, 14, 15, 19 and 20; §701.H; §701.I and all applicable Use Specific Guidelines).

Proposed Coastal Uses

All of the above analyses are not required for every type of coastal use and the type of information and level of detail required to address potential concerns varies within and between uses. OCM has taken a tiered approach to these analyses and has graded the level of detail required to be reflective of the extent of potential resource impacts. In general, the greater the risk to coastal resources, the more detailed the required analyses must be.

Several types of coastal uses are addressed in this guide however exclusion from this guide does not mean that other types of coastal uses do not require Alternatives, Justification, Drainage and Coastal Hazard Analyses. Likewise, all types of coastal uses will be reviewed on a case-by-case basis using the Coastal Use Guidelines to determine which, if any, of the analyses are required and to what level of detail they should be developed. Depending on the nature of the proposed use and the type and extent of adverse impact that may occur, information in addition to that suggested in a particular guide may be required, if in OCM's opinion, such additional information is necessary to fully evaluate the proposed coastal use.

An explanation for the need for any additional information OCM may request will be provided with the request for information.

Guides have been or will be developed for the following types of coastal uses. The highlighted sections represent existing guides.

Residential Developments

Marinas

Municipal Activities

Utilities

Levees

Transportation

Drainage

Recreational Facilities (Parks, Playgrounds, Ball Fields)

Pipelines

Oil & Gas Facilities

Commercial Facilities

Industrial Facilities

Port Facilities

Drainage and Coastal Hazards Analyses

Residential Subdivisions

OCM defines **residential subdivisions** as multi-house/unit residential developments. These types of developments require Alternatives, Justification, Drainage and Coastal Hazard Analyses regardless of the amount of wetland or coastal resource impacts. The complexity of the development, surrounding land use, type and level of resource impact and coastal use objectives are used to determine the range of alternatives to be considered in the Alternatives Analysis and the type of information and level of detail required for the Justification, Drainage and Coastal Hazard Analyses. This section addressed the Alternatives and Justification Analysis. See the Drainage and Coastal Hazards guide for more information on those Analyses.

Other factors that must be identified when developing the Alternatives and Justification Analyses are project objective, site description, infrastructure needs (roads, powerlines, sewerage, water, drainage) proximity to needed services (grocery, pharmacy, bank, hospital) and the development's effects on evacuation and existing infrastructure. Secondary impacts that may be necessary but fall outside the scope of the proposed development also must be considered as part of the overall development project. These secondary impacts may be permitted separately, but because they are dependent on the development project and vice versa, the impacts associated with them must be evaluated as part of the whole project. Secondary impacts include, but are not limited to, the construction of power, water, sewer, cable, internet and telephone lines as well as roads and access channels by which the development will be connected with existing infrastructure.

Because the level of detail required in the Justification-Analysis depends largely on the type and level of surrounding land use and the type and level of coastal resource impacts, **alternative sites should be addressed first**. All feasible sites, as defined below, should be considered and the least damaging site selected as the preferred site. Once the site has been selected, justification of the project should be prepared for that site. Please keep in mind that the type of information and level of detail required for the Justification, Drainage and Coastal Hazard Analyses, as requested by the OCM Permit Analyst, are dependent on the level of resource impact, level of surrounding land use and the size of the development. These parameters may change depending on the location, scope and configuration of the development ultimately determined to be the least damaging. Please check with your OCM Permit Analyst to determine if the level of detail originally requested still is required. If you would like to schedule a pre-application meeting in order to discuss the information required and efforts to be undertaken to minimize adverse impacts resulting from the proposed development, please contact our office at (800) 267-4019 or OCMinfo@la.gov.

Alternatives Analysis

The goal of an Alternatives Analysis is to find a location for the proposed development which results in the least amount of adverse impact to coastal resources while allowing the project to fulfill its main objective(s). The Alternatives Analysis provides an objective method of performing a fair and thorough consideration of feasible options for the location, construction, operation and maintenance of a proposed coastal use. OCM encourages applicants to utilize areas that avoid or minimize both direct and indirect adverse impacts to coastal resources. If a selected project location, construction, operation or maintenance method may result, in OCM's opinion, in adverse impacts to coastal resources, an Alternatives Analysis will be required.

Feasible sites are defined as any available parcel of land within the general vicinity of the proposed site (+/- 1 hour drive; within same Parish/geographic area; near preferred features such as waterways, parks, wildlife areas; offers the same amenities within the same driving distance of market area) that can support the main objective(s) of the proposed development. Project objective(s), surrounding land use, total project impact, availability of existing infrastructure and type and extent of coastal resource impacts should be considered when selecting feasible alternative sites. Sites that would result in more damage to coastal resources or are not of a size large enough to support the project are not considered to be feasible sites and should not be included in the Alternatives Analysis.

Feasible sites can be identified using current aerial photography to find currently developed areas and contacting landowners to determine availability for purchase. Local newspapers also provide a source of available real estate offerings. A drive-by search for lots posted for sale in the general development vicinity also can be an effective method of finding available sites. Several websites offer listings of large tracts of land (see "Available Sources" below). Multiple Listing Real Estate Searches (MLS) also can be used to determine the availability of property for development and also can be used to assess the current housing/real estate market in the development area. MLS or other real estate search results provided for site identification purposes must include the parameters used for the search. If no available alternate sites can be identified, documentation demonstrating such (letters of refusal from landowners to sell property (or chronology and summary of attempts), MLS or other real estate searches resulting in no matches - include search parameters and full results; aerial photos showing no available undeveloped land, any other documentation showing an attempt to find less damaging properties) must be provided.

Please note that a residential development does not need to be located on a waterway in order to serve its primary function (i.e. houses are not coastal water dependent). Also, ownership of a parcel of land is NOT adequate justification for selecting that site over other, less damaging sites. However since site purchase is a large part of development costs, ownership of a parcel of land can affect the economics of a project such that purchasing another parcel of land would make a proposed coastal use economically infeasible to a reasonably financed-applicant. The applicant will need to provide documentation of both project cost differentials and applicant/project financing that clearly demonstrates that purchase of additional land will make the proposed coastal use economically infeasible to a reasonably financed applicant. Table 1 can be used to determine the minimum range of alternatives that should be considered when developing an Alternatives Analysis.

Table 1 –Level of detail required for an Alternatives Analysis.

Size of Development	Resource Impacts (% of total impact)		
	Low ($\leq 20\%$)	Med (20.01% - 70%)	High ($>70.01\%$)
Small (less than 5 acres and 3-10 houses with no new access)	Category 1	Category 1	Category 2
Med (less than 5 acres and 3-10 houses with new access)	Category 1	Category 1/2 *	Category 2
Large (more than 5 acres or >10 houses)	Category 2	Category 2/3 **	Category 3
* If more than 1 acre of resource impact will occur, higher level of detail is required.			
** If more than 5 acres of resource impact will occur, higher level of detail is required.			

Category 1: A minimum of 3 sites should be considered, however OCM reserves the right to suggest consideration of other sites not identified by the applicant. The following information should be provided for each site considered.

1. Define the project objective(s) and identify the proposed features required to meet the objective(s). Identify any project objectives that may limit the range of alternatives to be considered.
2. Identify, on a map, the location of each site considered for development. If no alternate locations were identified, provide an explanation of the efforts undertaken to find alternate sites.
3. Describe each site considered. Include parcel size relative to development size, general topography and water/wetland features, habitat type(s) present, if known, and estimate of impact to each. If access to the property is limited or unavailable, explain the limitations and provide any information that can be gained about the site. Identify any limiting factors and explain how those factors limit development.
4. Identify the availability and capacity of existing infrastructure (roads, utilities, water, sewer, etc.). Describe any new infrastructure required (excluding tie-in from individual units to existing infrastructure).
5. Describe the surrounding land use within one-quarter (1/4) mile of each site considered. Radius should extend from the outside boundaries of the proposed development. Include type and extent of existing use and any planned future uses, if known.
6. Provide a narrative explaining the reasons for the elimination of each site considered but not selected for development. Please note that the factors used to compare each site should be identified and should be consistent among sites.

Category 2: A minimum of 4 sites should be considered, however OCM reserves the right to suggest consideration of other sites not identified by the applicant. Items 1-6 above plus the following should be provided for each site considered.

7. If no alternate sites were identified, provide supporting documentation for item #2 above. Documentation can include letters of refusal from landowners to sell property or written chronology/summary of attempts to contact landowners, MLS or other real estate searches resulting in no matches (include search parameters and full results), aerial photos showing no available undeveloped/unused land, etc.
8. Describe the surrounding land use within one-half (1/2) mile of each site considered. Radius should extend from the outside boundaries of the proposed development. Include type and extent of existing use and any planned future uses, if known.

Category 3: A minimum of 5 sites should be considered, however OCM reserves the right to suggest consideration of other sites not identified by the applicant. Items 1-8 above plus the following should be provided for each site considered.

9. Describe the surrounding land use within one (1) mile of each site considered. Radius should extend from the outside boundaries of the proposed development. Include type and extent of existing use and any planned future uses, if known.
10. Identify the current zoning of the site and indicate if any zoning variances will be required prior to development.
11. Explain how the use will affect existing infrastructure, including evacuation and identify any additional permits required (ex. DOTD driveway permit). Describe any secondary infrastructure (excluding tie-in from individual units) that may be required to service the development. Include location and/or route of the needed infrastructure and type and extent of impacts associated with installation of that infrastructure.

Once the least damaging feasible site has been identified, alternate configurations/methods and/or reduction in scope should be considered in an attempt to avoid or minimize adverse impacts to coastal resources located on the selected site. Be aware that some parishes and municipalities, depending on the size of the development, require set asides for green space, park, recreation areas and possibly detention or retention ponds. These requirements for set asides must be taken into consideration when selecting a site and configuring the development.

Justification Analysis

Once adverse impacts have been avoided to the maximum extent practicable through the Alternatives Analysis process outlined above, a Justification Analysis for the project at the selected site must be demonstrated. The goal of a Justification Analysis is to ensure that there is a public need and demand for the goods and/or services to be provided by a residential development, thereby reducing the chances that a site will be developed only to fall into disrepair due to lack of public interest in the goods and/or services to be provided. The Justification Analysis should include but not necessarily be limited to, the objective(s) of the coastal use (what goods and services will this development provide, are these goods and services available now and if so at what level), population trends (is the area gaining residents by growth, migration, etc.), existing residential real estate trends and competitor development comparisons (what is available for sale now, what is the sale rate or turnover rate within the same price range as the proposed development, etc.). The availability and capacity of existing infrastructure such as utilities, sewerage, community services, etc also must be addressed (are there existing roads and/or utilities or will new access and/or utilities be required).

Table 2 can be used to determine the appropriate level of detail that a Justification Analysis may require in order to demonstrate that the potential benefits to be realized from the proposed project clearly outweigh the potential adverse impacts. Please keep in mind that if a site other than the site applied for is selected, the level of detail for the Justification, Drainage and Coastal Hazard Analyses, as requested by the OCM Permit Analyst, may change. Please check with your Permit Analyst to determine if the level of detail originally requested still is required for the site ultimately selected for development.

Table 2 – Level of detail required for a Justification Analysis.

Size of Development	Resource Impact (% of total impact)			Surrounding Land Use [†]
	Low (≤20%)	Med (20.01-70%)	High (>70.01%)	
Small (5 acres or less and 3-10 houses, no new access)	S	S	S/M *	High (dense residential/commercial/industrial)
	S	S/M *	M	Moderate (light residential/commercial, agriculture)
	S	M	M/C *	Low (no development)
Med (5 acres or less and 3-10 houses w/new access)	S	S/M *	M	High
	S	S/M *	M	Moderate
	S	M/C *	M/C *	Low
Large (5 acres or more or >10 houses)	S	S/M **	M/C **	High
	S/M **	M	M/C **	Moderate
	M/C **	C	C	Low
* If more than 1 acre of resource impact will occur, higher level of detail is required. ** If more than 5 acres of resource impact will occur, higher level of detail is required. † Refers to the type and extent of the uses occurring on lands in the vicinity of the proposed development				

Simple Justification

1. Provide the name of the development and the name and address of the developer(s)
2. Describe the development. Include the number and type of units proposed (single family detached, single-family townhouse, duplex, multi-family, mobile/manufactured home, elderly housing, etc.) and other proposed amenities (marina facilities, boat docks, wharves/piers, bulkheads, neighborhood park, etc.).
3. Provide the objective(s) of the development (fishing and/or hunting camps, primary homes, vacation homes, etc.)
4. Describe the development site and any physical limitations of the development and/or site. Include total project impacts in acres and the type and extent, in acres, of any anticipated coastal resource impacts.
5. Describe the type and level of current surrounding land use in the proximity of the proposed project site. If the proposed site is surrounded by development, please describe the types of developments/current land use surrounding each alternative site. If surrounding properties may be impacted in any way as a result of the proposed project being constructed, operated or maintained, please describe those impacts and how they will be addressed. If the applicant owns the surrounding property, future plans for that property must be provided.
6. Describe the availability of existing utilities and the need for any necessary utilities. If additional utilities will be required, describe the type, source and impacts associated with installation of these utilities. Indicate the party responsible for installing those utilities. Any impacts resulting from installation of utilities are considered secondary impacts to the

proposed development and must be considered during review of the development application.

7. Describe the current roadway access to the project location. If improvements to the existing roadways will be required to accommodate the proposed development, describe the required improvements and indicate the party responsible for making those improvements. Any impacts resulting from roadway improvements are considered secondary impacts to the proposed development and must be considered during review of the development application.
8. Explain how you believe there is a public need and demand for your development at the proposed site. (No formal documentation is necessary.)
9. Discuss any future plans for expansion of the proposed development into adjacent properties or for other types of development on adjacent properties.

Moderate Justification: Address 1-9 above plus:

10. Provide any additional available documentation such as letters from realtors regarding local housing trends, lot purchase agreements or letters of intent to purchase, etc. that demonstrate a demand or need for the proposed development.

Complex Justification: Address 1-10 above plus:

11. Provide any available documentation, in addition to that provided in #10 above that supports the public need and demand for this development, as described in #8 above. Additional documentation can include, but is not limited to, MLS results demonstrating current real estate stock, sale rate (average days to sell) of existing housing stock, residential building permit trends over a relevant time period, etc.

OR

If surrounding land use is low, existing real estate information for that area will not be available. In this case, provide real estate information for a minimum of 2-3 existing similarly situated developments in another location. For example, if the purpose of the development is to provide access to a specific area, look for other developments in areas of low surrounding land use that focus on providing access to a specific area and provide the information requested in item #11 above for those developments. If no similarly located developments are available for comparison, provide a statement explaining such and include any available documentation that demonstrates a demand for the proposed development.

12. Provide average price range of the proposed residential units and the average price range of residential units within the same region as the proposed development. (If using item #11 part 2, provide the information for the development used for comparison). Explain how this development will meet current housing demands. Include sales projections of the proposed development.

13. Provide the average annual change in the number of households and civilian labor force in the development area in the last 10 years. (If using item #11 part 2, provide the information for the development area used for comparison and compare that to the proposed development area).
14. Provide an analysis of the population trends in the development area over the last 10 years. Include any available data that clearly supports the results of the analysis. (If using item #11 part 2, provide the information for the development area used for comparison and compare that to the proposed development area).

Available Sources

Real estate information such as sale rates, current housing availability, average price ranges and gross density can be obtained from realtors and/or building associations in the development area. Multiple Listing Searches provide a listing of all available parcels of land that meet criteria specified by the searcher and can be performed by real estate agents and/or online. The search results will provide a picture of the current housing stock and the demand on that stock as well as assist in identifying the availability of feasible alternatives. Building permit trends can be obtained from the local building permit office or newspaper in the development area. U.S. Census data can be used to determine population trends such as growth and migration patterns in the development area. Please note that documentation and data gathered for other purposes, such as to obtain financial backing or to attract development partners, that demonstrate the demand or need for the proposed development also can be included as part of the Justification Analysis.

The following websites also may be useful sources of information:

Real Estate Data:

<http://louisianalandsource.com/>
http://www.westslopeproperties.com/land_sale/?filter=LA
http://www.landwatch.com/Louisiana_land_for_sale
<http://www.landandfarm.com/>
<http://www.landsofamerica.com/america/?Search=region>
<http://www.unitedcountry.com/realestate/search-state/index.htm>
<http://www.farmlandsearch.com/view.aspx?sc=louisiana&p=0-8-0>
<http://www.wredcoland.com/Default>
<http://www.ldaf.state.la.us/portal/News/MarketBulletinCurrent/tabid/165/Default.aspx>

Population Data:

<http://www.huduser.org/portal/datasets/socds.html>
<http://www.reis.com/index.cfm>
<http://www.census.gov/econ/census07/>
http://www.bls.gov/cew/map_application.htm

LIST OF GUIDES